



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,387	03/17/2004	Premakaran T. Boaz	2678.2011-000	3670
21005	7590	12/14/2006	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C.			IP, SIKYIN	
530 VIRGINIA ROAD			ART UNIT	
P.O. BOX 9133			PAPER NUMBER	
CONCORD, MA 01742-9133			1742	

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/802,387	BOAZ ET AL.	
	Examiner	Art Unit	
	Sikyin Ip	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-40 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-20 are, drawn to solder compositions, classified in class 148, subclass 22+.
- II. Claims 21-40 are, drawn to a method of forming solder compositions, classified in class 148, subclass 538+.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process as claimed can be used to make another and materially different product such as Sn-Pb solders.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required

Art Unit: 1742

because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

Each Group of I and II is further restricted for reasons set forth below:

Group I

Claims 1-3 and 16-20 are generic to the following disclosed patentably distinct species: below.

The species are independent or distinct because

- III. Claim 4 is directed to 95-97 wt.% Sn and 3-5 wt.% Ag;
- IV. Claims 5-6 are directed to 61-39 wt.% Sn, 59-37 wt.% Bi, and 1-3 wt.% Ag;
- V. Claims 7-8 are directed to solder composition containing 30% granular additive, 95 wt.% Sn and 5 wt.% Ag;
- VI. Claims 7 and 9 are directed to solder composition containing 30% granular additive, 75 wt.% Sn, 23 wt.% Bi, and 2 wt.% Ag;
- VII. Claims 10 and 11 are directed to solder composition containing 20% granular additive, 62 wt.% Sn, 36 wt.% Bi, and 2 wt.% Ag;
- VIII. Claims 10 and 12 are directed to solder composition containing 20% granular additive, 72 wt.% Sn, 20 wt.% Bi, and 2 wt.% Ag;
- IX. Claims 10 and 13 are directed to solder composition containing 20% granular additive, 78 wt.% Sn, 20 wt.% Bi, and 2 wt.% Ag;
- X. Claims 10 and 14 are directed to solder composition containing 20% granular additive, 83 wt.% Sn, 15 wt.% Bi, and 2 wt.% Ag;

Art Unit: 1742

XI. Claims 10 and 15 are directed to solder composition containing 20% granular additive, 88 wt.% Sn, 10 wt.% Bi, and 2 wt.% Ag.

Group II

Claims 21-23 and 36-40 are generic to the following disclosed patentably distinct species: below.

The species are independent or distinct because

III. Claim 24 is directed to method of forming solder composition containing 95-97 wt.% Sn and 3-5 wt.% Ag;

IV. Claims 25-26 are directed to method of forming solder composition containing 61-39 wt.% Sn, 59-37 wt.% Bi, and 1-3 wt.% Ag;

V. Claims 27-28 are directed to method of forming solder composition containing 30% granular additive, 95 wt.% Sn and 5 wt.% Ag;

VI. Claims 27 and 29 are directed to method of forming solder composition containing 30% granular additive, 75 wt.% Sn, 23 wt.% Bi, and 2 wt.% Ag;

VII. Claims 30 and 31 are directed to method of forming solder composition containing 20% granular additive, 62 wt.% Sn, 36 wt.% Bi, and 2 wt.% Ag;

VIII. Claims 30 and 32 are directed to method of forming solder composition containing 20% granular additive, 72 wt.% Sn, 20 wt.% Bi, and 2 wt.% Ag;

IX. Claims 30 and 33 are directed to method of forming solder composition containing 20% granular additive, 78 wt.% Sn, 20 wt.% Bi, and 2 wt.% Ag;

X. Claims 30 and 34 are directed to method of forming solder composition containing 20% granular additive, 83 wt.% Sn, 15 wt.% Bi, and 2 wt.% Ag;

XI. Claims 30 and 35 are directed to method of forming solder composition containing 20% granular additive, 88 wt.% Sn, 10 wt.% Bi, and 2 wt.% Ag.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species among Groups III-XI, even though this requirement is traversed. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

Applicant is reminded that when amendment and/or revision is required, applicant should therefore specifically point out the support for any amendments made to the disclosure. See 37 C.F.R. § 1.121; 37 C.F.R. Part §41.37 (c)(1)(v); MPEP §714.02; and MPEP §2411.01(B).

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to S. Ip whose telephone number is (571) 272-1241. The examiner can normally be reached on Monday to Friday from 5:30 A.M. to 2:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King, can be reached on (571)-272-1244.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



SIKYIN IP
PRIMARY EXAMINER
ART UNIT 1742

S. Ip
December 11, 2006